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10/046,718	01/17/2002	Yoshiharu Maeno	M5920.0000/P000	4855

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EXAMINER	
BELLO, AGUSTIN	

ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/046,718	MAENO, YOSHIHARU	
	Examiner	Art Unit	
	Agustin Bello	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-39 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-39 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 5/9/02.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuda (U.S. Patent Application Publication No. 2002/0154359).

Regarding claims 1, 18, 30, and 36, Tsuda teaches an optical network comprising: a first optical switch (paragraph [0210]) for connecting a plurality of input ports to a plurality of output ports in response to a control message; a plurality of optical transmission links (reference numeral 102 in Figure 1) for connecting a transmitting side to a receiving side; at least one optical transmission element (reference numeral 104 in Figure 1) disposed in said optical transmission link for establishing a plurality of logical channels from said the transmitter side to the receiver side, a controller (reference numeral 114, 265 in Figure 2) associated with said optical transmission element, the controller including a memory (paragraph [0087]) and creating an entry (paragraph [0080]) in the memory for each of said logical channels in response to said control message for mapping at least one attribute of said each logical channel to a reference optical intensity value, said controller measuring optical intensity of each of said transmission links and comparing the measured optical intensity with the reference optical intensity value mapped in said memory to the logical channel established through said measured transmission link for management of said optical transmission element (paragraph [0092]). Tsuda differs

from the claimed invention in that Tsuda fails to specifically teach a second optical switch for connecting a plurality of input ports to a plurality of output ports in response to said control message. However, Tsuda suggests as much in disclosing the first optical switch at the transmitting end. One skilled in the art would clearly have recognized that an increase in the number of channels via a switch at the transmitting end would likewise require a corresponding switch at the receiving side to accommodate the increase in channels and to further direct the additional channels to their proper outputs. Furthermore, corresponding sets of switches at the transmitting and receiving ends of a WDM system are well known in the art. One skilled in the art would have been motivated to include a second optical switch at the receiving end of the system of Tsuda in order to allow for the system expansion desired by Tsuda. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include a second optical switch at the receiving end of the system of Tsuda.

Regarding claims 2, 19, 31, 35, and 37, Tsuda teaches that the controller calculates (e.g. via "an arithmetic unit" in paragraph [0087]) the total sum of reference optical intensity values mapped in said memory to a plurality of logical channels (e.g. "correspondence table" of paragraph [0142]) established through said each transmission link and compares (e.g. "refers to" of paragraph [0142]) the measured optical intensity with said total sum for management of said optical transmission element (see also paragraph [0187]; paragraph [0203]).

Regarding claims 3, 20, and 32, Tsuda teaches that at least one attribute represents one of wavelength, transmission rate, and data format (paragraph [0080]).

Regarding claim 4, Tsuda teaches that said controller revises said entry in response to control message indicating a revision of said at least one attribute (paragraph [0092]).

Regarding claims 5 and 39, Tsuda teaches said controller deletes (e.g. "updates" in paragraph [0092]) said entry from said memory in response to a control message indicating a release of a logical channel, and wherein said first and second optical switches respond to the control message for clearing said logical channel (paragraph [0210-0211]).

Regarding claims 6, 33, 34, and 38, Tsuda teaches that said controller detects a fault in said optical transmission element based on the measure optical value and a reference optical intensity value mapped in said memory (paragraph [0064]; paragraph [0079]).

Regarding claims 7 and 21, Tsuda teaches that said optical transmission element comprises a wavelength division multiplexer (reference numeral 101 in 1) for multiplexing optical signals from a plurality of optical links from said first optical switch into an optical multiplex signal.

Regarding claims 8 and 22, Tsuda teaches that said optical transmission element comprises a wavelength division demultiplexer (reference numeral 104 in Figure 1) for demultiplexing optical signals into a plurality of optical component signals.

Regarding claims 9 and 23, Tsuda teaches that said optical transmission element comprises an optical amplifier (reference numeral 104 in Figure 1).

Regarding claims 10, 13, 24, and 26, Tsuda teaches said wavelength division multiplexer further comprises: a plurality of optical variable attenuators (reference numeral 253 in Figure 2) for controlling intensity of a plurality of incoming optical signals from said first optical switch and a plurality of optical intensity detectors (reference numeral 257, 258 in Figure 2) for producing a plurality of signals indicating intensity of said incoming optical signal said controller (reference numeral 114 in Figure 2) controlling each of said optical variable

attenuators according to a difference between the measured optical intensity and said referee intensity value mapped in said memory. (See Figure 5 for corresponding claim 13 demultiplexer elements)

Regarding claim 11, Tsuda teaches that said controller uses said difference for detecting a fault in one of a plurality input optical circuits of said wavelength division multiplexer (paragraph [0064]; paragraph [0079]).

Regarding claims 12, 14, 25, 27, and 28, Tsuda teaches that said wavelength division multiplexer further comprises an output optical detector (reference numeral 257 in Figure 2) for producing a signal indicating intensity of an optical multiplex signal from said multiplexer, wherein said controller uses the sign from the output optical detector as said measured optical intensity and detects a difference between the reference optical intensity and the measured optical intensity for detecting a fault in an output circuit of said wavelength division multiplexer. (See Figure 5 for corresponding claim 13 demultiplexer elements).

Regarding claims 15 and 29, Tsuda teaches that said optical amplifier comprises an optical amplifying medium (reference numeral 252, 254 in Figure 3) for amplifying an optical multiplex signal; an excitation energy source (inherent in fiber amplifiers) for pumping optical energy into the optical amplifying medium; an input optical detector (reference numeral 257 in Figure 3) for producing a indicating intensity of an optical multiplex signal supplied to said optical amplifying medium, and an output optical detector (reference numeral 258 in Figure 3) for producing a signal indicating intensity of the amplified optical multiplex signal from said optical amplifying medium, said controller (reference numeral 165 in Figure 3) controlling said

excitation energy source according to a difference between the measured optical intensity and said reference intensity value mapped in said memory.

Regarding claim 16, Tsuda teaches that said at least one transmission element comprises a wavelength division multiplexer (reference numeral 101 in Figure 1), an optical amplifier (reference numeral 104 in Figure 1) and a wavelength division demultiplexer connected in series in said optical transmission links and wherein said controller is one of a plurality of first, second and third controllers associated with said multiplexer, said amplifier and said demultiplexer respectively (as seen in Figures 2-5).

Regarding claim 17, Tsuda teaches that said control message is a multicast message transmitted over a common channel to said first and second optical switches and said first, second and third controller (paragraph [0087]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Agustin Bello
Examiner
Art Unit 2633

AB

A. Bello

AGUSTIN BELLO
PATENT EXAMINER